Saint Paul ATARI Computer Enthusiasts

SPACE

An independent computer user group

SPACE Meeting Friday, March 10th at 7:30pm

MAST Meeting Friday, March 17th at 7:30pm

At the Falcon Heights Community Center
2077 Larpenteur Avenue West

MAST+ Programmers Meeting
Tuesday, March 20th at 7:30pm

At First Minnesota Bank Building - second floor
Lexington and Larpenteur, in back of building

MAST

Minnesota
Atari ST

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1/2 page - 4" vertically x 5 1/8" horizontally - $ 15/mo., $140/yr.
Full page - 8" vertically X 5 1/8" horizontally - $25/mo., $240/yr.
Club members classified - 50¢ per 40 characters, $2.50 minimum per ad.
Send to : SPACE/MAST, P.O. Box 12016, New Brighton, MN 55112

S • P • A • C • E

Bytes from the Pres
by Greg Howell

Well, not much has happened since the last time we met, but I KNOW we will have an exciting meeting any way! It has been suggested that we have an arcade game night (one meeting). I think the suggestion has merit, and should be discussed by the members. I think this meeting would be a good one to talk about what you would like the club to be doing in the near future.

One of the things I would like to do is put together a list of members who would volunteer their time to answer questions from other Atari users about such thing as PaperClip, MIO, etc.....

8-bit news

Well, unfortunately the programmers S.I.G. meeting was postponed until the March meeting. The reason being that there were too many things happening last meeting. This made rounding up all of the interested members impossible. So we will try again this meeting! I am also trying to put together a member-ship list for the programmers SIG group, So, if you can't come to the meeting please give me a call and I will add you to my list of members.

Well that is it for this month. HOPE to see everybody at the meeting!

Newsletter articles for April due by March 29!

M • A • S • T

News from the Pres
By Jim Schulz

It's St. Pat's time of the year, and this year it's celebrated on the day of the March MAST meeting — or is it the other way around? There is a lot to discuss this month, so let's get started.

First up, last month's birthday party. I would like to thank all of you who attended and helped MAST's third birthday be the best yet. A number of "thank you"s should be spread around. First to Wizard's Work, for their donations of ST software. Second to Dave Meile, chief Vice President, for helping to keep things moving and all the other miscellaneous chores that I didn't see. Third, and I should probably say foremost, to Allan Frink for lasting through the continuous stream of new member signups and renewals, and, when that was done, selling off all of the DOMs that I made up as well. I really felt sorry for poor Allan back there. Allan also arranged for the cake among other things as well. Thanks are also due to Kent Schumacher, Jim Newcomb, Todd Burkey, sick Steve Pauley, and all who brought the munchies along as well. Also, congratulations to all of the winners of the MAST door prizes as well. The MAST birthday party is not a one person show, but a group effort, and everyone should be thanked for making it a big success.

Now that we have completed our third year, it's time to look forward to our fourth year and see what's in store for

March. I have changed the schedule around a bit this month. This month, we will have a normal meeting again. We have had a number of new members over the last few months and a number of new projects started. So this month will be a month for questions and answers and more communication among members. This month will include the standard news and rumors, DOMs and, of course, demos.

Demos this month will include Spacecutter, STOS - the Arcade Game construction program, Zany Golf, a demo of the 8 bit drive hooked to the ST, and possibly Tetris. We will also be showing Prospero C and the Devpac Assembler for the programmer type in a general demo, with a full demo planned for the Tuesday Programmers meeting. I have tried the 8 bit drive and it seems to work really well for reading ST disks, although it does seem a little strange to see it hooked up to my ST. If you have any old 8 bit software which you would like to try, bring it along to the meeting. Also this month, we will continue the ANALOG disk special of $3.00 a disk for just one more month. I will have a list of all of the programs on each disk available for your selection.

So what's coming in the months to come???? Things are a little hazy, but I am working on a meeting on desktop publishing, ST emulators including the Spectre cartridge and ST utilities including Neodesk, Universal Item Selector, Multidesk, Turbo ST and more. Also, a number of people have been asking about MIDI and the ST. If someone is willing to put something together, please let me know.

Also, don't forget the MAST+ meeting on the **Tuesday** following the MAST meeting with Dale, Chuck, John, Dave and Todd as well. This month, Steve Murphy will be demoing Prospero C and the Hisoft Devpac Assembler. We might also have a demo of Hisoft's Wercs resource editor as well. If you have a programming question, these are the people who can answer it and this is the best place to ask it. And stay around afterward for pizza as well. You don't have to be a programmer to enjoy the MAST+ meeting.

Other stuff.... As I mentioned earlier, a number of people are asking me about MIDI lately. From the interest level, it sounds like we could even start a MIDI subgroup as well. But I currently can't find anyone to run this group or willing to run with the idea. I am involved with too much already to start another group. I have also had a number of people ask about a MIDI demo at a MAST meeting as well. If anyone is willing to help in either area, please let me know.

We again need volunteers for jobs at MAST. One position is very crucial. We need a publicity head. Someone who is willing to follow up and carry out opportunities to spread the name of MAST and the ST throughout the Twin City area. It seems like right now there is a lot of opportunity to expand, but we need someone to help coordinate this. We also need two people to help MAST with a number of monthly mailings. All this involves is placing address labels and labels on cards and mailing them out. MAST needs your help!!! See me if you are interested.

The 300 disks that I had been waiting for finally arrived at 5:00pm on the Tuesday of the MAST+ meeting. So I now do have disks for $0.90 each for double-sided disks. I also have over-the-top disk labels for $2.00 per 100 as well.

A number of projects are currently in the works. Some of these include a question/comment/disk request box. A number of people ask me questions after each meeting. Some which I can answer, some that should be followed up on, and some that are just too long to talk about. At the birthday meeting, I had to cut some people short, for which I am sorry. I hope this will be a means to get everyone's questions solved in complete manner and disk requests filled as well. Another project is a monthly ST magazine checkout. My stack of magazines were gone over quite well last month. I'm currently one piece away from getting this one going so either this month or next month. This month, I will also have three British ST magazines courtesy of former MAST VP Phil Siefert. Also in the works is a listing of ST Magazines and how to get them and a listing of local sources for ST hardware and software.

Finally, don't forget to check the MAST BBS weekly for the latest ST News from ST Report, and STZMAG. These are posted now every Tuesday and Friday so check them out. Joining the online magazines this month is an index of the monthly ST magazines as well. Starting this month also, I will try out a monthly disk of ST magazines for $2.00 so check this out also if you don't want to download them from MAST.

Well, that's about it for March. If you are reading this, it's because of the patience of our newsletter editor, Dave Meile. The last two weeks for me have been pretty hairy at best. After the MAST meeting, I came down with the flu and was laid up for most of the next week and then this week I have been tied up at work, day and night, working 14+ hour days.

The envelope looks pretty empty this month for lack of time to look. Stuff that looks good is King's Quest IV (they keep getting better), Batman, and Times of Lore, from the authors of the Ultima series. Thanks again for a great birthday party and I hope to see you all at the next MAST meeting and the MAST+ meeting.

A word from the editor

March seems to be a month for the discussion of hardware! In this issue you will see articles on working with the 1020 plotter, adding an ICX-85 keypad, and putting together your own hard drive system. Thanks to all of the members who contributed articles for this month's issue.

I am trying something a bit different this month with the format. Please let me know what you like (or don't like) about the Newsletter. Comments will reach me at the following address:

David Meile, Box 13038, Minneapolis, MN 55414

ST Programmers SIG meets on TUESDAY, not Monday, this month!

Last Night

by David Cole

Well, so far I haven't received any information about the User-groups in Florida, Chile and everywhere else. But, keep your shirts on, something will get to me soon. So, for now, don't get too excited!

And if you are interested in writing to Atari, to ask questions or anything, you can write them at the following address:

Atari Corporation
P.O. Box 61657
Sunnyvale, CA 94088-3427

ATTN: customer relations

I have written to them and even though it took some time, they were able to get back to me. Now, if you prefer to call them, you may call the Atari BBS at (408) 745-5308. If you write, it may take time for them to get to you because Atari is a busy company. (I had to say that).

I hear that there is a cartridge version of 850 Express coming out. It will be selling for $60 or so. It will probably be worth the money if this cartridge version has some new features. Well, when it gets released, we will know for sure.

Well, it looks like I'm out of things to say (another first), so the only thing I can say now is "Bye until next newsletter."

SPACE 8 BIT SOFTWARE LIBRARY NEWS

March 1989
by Joe Danko, Disk Librarian

The DOM for March, 1989:
SIDE A

```
DOS      SYS 037
DUP      SYS 042
SOLITAIRCOM 088
SOL63    I  010
SOL63    II 153
SOL63    III 098
SOL      CNF 003
SOL      DAT 003
SOL      DOC 166
READ11   DOC 011
READ     COM 008
SOL      BAK 003
AUTORUN SYS 001
MENU       039
SPACE    DOC 002
HELP     DOC 027
```

There are just two programs on side A.
SOLITAIRE: A card game which is a cross between Canfield and Klondike. It is all of the files with names which start with 'SOL'.
READ: A utility for reading text files to the screen.

DOM SIDE B:

```
DOS      SYS 037
DUP      SYS 042
ARC24    COM 072
UNARC24 COM 083
DOCS     TXT 251
READ     ME  003
BGM      COM 181
NOTES    V02 034
```

Side B also has only two programs.

ARC24/UNARC24: This is an update to the SUPERARC package in a previous DOM. This version fixes the need to have separate versions for DOS 2.0/2.5 and SPARTADOS.
BGM: Backgammon simulation written in 'C' by SPACE member,Mark Vallavand.

We featured TURBO BASIC from the Library in February by selling 2 disks full of TURBO BASIC applications. There were games, utilities and more. There are two disks in the set. Disk #1 has nothing but programs written in TURBO BASIC. Disk #2 has nothing but programs compiled with the TURBO BASIC COMPILER. The TURBO BASIC environment disk was also available with all of the programs and documentation necessary to properly use TURBO BASIC. As things turned out the COMPILED disk was released without the RUNTIME.COM file on the disk. If you are in this situation just copy RUNTIME.COM as AUTORUN.SYS on both sides of the COMPILED disk. The Library will exchange your disk for a complete one if you desire.

MAST Disks of the Month

By Jim Schulz

Well, it's MAST disk time again. After last month's near sellout, I am really going to have to work to beat that. I am more that a little late this month, so I will again be keeping things short.

First some news and then this month's disks. **Doc disks....** This is still in the works. The new STDCAT from last month's utilities disk has really got me itching to start again. It's on the list, but I doubt it for this month. **Prices....** All MAST disks are again $6.00. All updates are $2.00 each with the original disk. ST News disks and doc disks are $2.00. Finally, for March only, all ANALOG disks are $3.00 including March's issue as well. **Backorders....** I now have a number of backorders to fill from last month's birthday blowout. I was very short on disks last month so that's part of the reason for shortage. I am working on filling all of the backorders. We will also have an ample supply of Utilities and Applications disks for February at the meeting. I am sorry for any inconvenience that this has caused. **Suggestions....** Hopefully this month, the MAST suggestion box will be out. This is your best way to order back MAST disks and/or out-of-stock disks as well as let me know what you want to see on future DOMs. Take a minute at the next meeting and let me know what you want to see. **Online mags....** On a trial basis, starting this month, I will be generating a disk with the latest ST Reports and STZMAGs from the last month. These have been very popular on the MAST BBS lately so now you can save the download time and get them on disk for only $2.00. This is a three month trial so if there is no sales, it will be dropped. **ANALOG disks....** These have been quite popular over the last few months, but the common complaint is what is the disk and what disk is it on???? Well, for the umteenth time, I am going to reorganize the ANALOG disks. When I am done, I will scan the disk using the new disk cataloger and have a listing at the next meeting for your review. Also ANALOG disks will be

$3.00 for just one more month!!!!

So that's the news for March and now on with this month's selection:

Update Disks - This month's update disks include an updated Sozobon C disk with new GEM binding files with sources as well as a single double-sided version of Sozobon C, and another update to ST Xformer with a new utility to create disk files. The ST Xformer update is free this month.

Utilities - We have a number of utilities to choose from this month Some of these utilities include a new version of ARCSHELL with better config file storing as well as keyboard typeins for all commands, a new file splitting backup program called Terrapin from the author of Turtle, a new version of QDATE the best and easiest time setting program, docs for the super copy program Hypercopy, and a whole lot more to come.....

Applications - This month's applications include a Metafile/GEM viewing program for Easy-Draw files, a GDOS manual/documentation viewing program, a biorhythm generation program and a spelling checking program with a 4500 word dictionary.

Games - The monochrome games continue this month with a monochrome version of Space Invaders and rather strange cannonball game called Baller. Also we have a new version of Mastermind as well.

Specials - This month, we have a number of new special disks. First, we have a collection of pictures called the Planets which includes a picture tour of the solar system with 52 Degas Elite pictures. This one is very well done!!! Second, we have a statistical graphing package. This one has too many features to run through them all. Third, we have a new Space Invaders-like game from England called Damonoid. Once this game is literally "cleaned up", it will be on next month's DOM. Fourth, we have a new super sound and graphics demo from Europe. I have read some super comments on this one and I have been waiting for it and it has now arrived!!!! Finally, we will have our first online magazine disk or disks from the last four to five weeks. If you want to know the latest ST news, rumors, and offers, this is the place to look. All this plus a few surprises as well.....

ANALOG - This month, all of the ANALOG disks will be reorganized for once and for all. This month's disk has a number of interesting programs including a Chemical calculator program, a picture puzzle program to create puzzle out of Degas and Neochrome pictures with any number of pieces, and a sound concentration game where you have to match the sounds instead of pictures.

Well, this is just a sample of what's in store for this month. More is in the works and this is what I have put together after only one day of looking. Check out the MAST BBS the week of the meeting of the latest update on this month's DOMs. A number of these programs will also be demoed at the meeting as well.

If you can't make the meeting and would still like to get hold of the DOM or would like to get hold of the DOC disk, my new address is

5900 65th Avenue North #204
Brooklyn Park, MN 55429

That's it for March. It's short again this month, but you still get the complete lowdown. Keep those comments coming. A number of new disks are being worked on now. Requests are always welcome. I hope to see you all at this month's MAST meeting and on the MAST BBS.



8-Bit BBS NEWS

by Bruce Haug SYSOP

Well the BBS is running great! I think I scared it into working by trying to contact Keith Ledbetter. Its been running for 120 hours as i'm writing this.

Come to the Meeting and join the 8-Bit Programers "GROUP". There is a message base set aside just for this group on the BBS. Join the fun, learn more about programing. I don't see any "PRO's" in the group yet, they are all people like you and I.

Get the latest ZMAG's on the 8-Bit BBS! This is a great way to keep up with the latest ATARI News. I keep the last 12 or so issues on the BBS. ZMAG's come out weekly, Down Load them, the price is right.

I also now have the latest SPACE - MAST membership list..Hopefully I can now see if BBS users are also "Current" members.



Lode Runner: A Review

by David Cole

This is a new article which I hope that you will like. It is a program review article (as you may have guessed). This month I will be reviewing a game. Don't get excited because I am not going to review "Pac-Man". I'm sorry.

The lucky program for this month is "Lode Runner". You can get the program mail order by diskette or in stores or by Atari direct in cartridge form. This program was made by Broderbund Corp. and licensed to Atari for the XE game system cartridge. This game isn't the candidate for best graphics, but it become a best seller of 1984 (or somewhere in there).

The game is simple. You go around 150 different screens, collecting gold and avoiding nasty aliens who stole the gold. If you press the joystick button, you will make a hole and the guy gets trapped in the hole. But, I wouldn't recommend you, yourself, getting trapped in your own demise. If you have a disk drive and a disk, you may make 151 screens of your own. No programming knowledge is required! The cartridge and disk versions both use 48k. I saw an article claiming that the cartridge took 64k. That person lied. The cartridge works perfectly on an 800 with 48k.

Please comment about this area if you like.

Check your label to see if your Membership has expired!

An Introduction to the 1020 Plotter

by John Novotny

The January SPACE meeting 1020 demo (Biorythm program) and the info that CMO was selling the 1020 for $20 provided the incentive for me to get it. Although I cannot speak from experience as a user yet, or a programmer adept at making the 1020 do its thing, I am pleasantly surprised by its extensive capabilities as indicated by the control sequences (described later). I include them here assuming there may be others like me who are quite ignorant about this device, and if introduced to it, may pursue development of applications that other 1020 owners might share someday. Also, just a note about what you get: the plotter and SIO cable, 2 sets of pens, 1 roll of paper, operating instructions, and programs (draw and demos) on cassette with instructions to put them on disk.

The 1020 operates as a "P:" device, defaulting to text mode with a 40 character line length. The control sequences that select other capabilities follow:

CHR$(27);CHR$(7) - enter graphics mode

The following character strings provide control while in graphics mode:

"H" Pen carriage to home position
"Cc" Change color (c=0-3)
"LO" Line control, solid line
"Lxx" Line control, dotted line (xx=1-15 to select segment lengths)
"I" Initialize to coordinates 0,0
"Mx,y" Move to coordinates x,y (0<=x<=480, -999<=y<=+999)
"Rx,y" Relative move
"Dx1,y1,x2,y2,.." Draw from 0,0 to xn,yn
"Jx1,y1,x2,y2,.." Draw from current position to xn,yn
"P then text" Print characters while in graphics mode
"Qn" Print text direction in graphics mode
"Snn" Character size (nn=0-63)
"A" Return to text mode

The preceding command sequences may be combined in a single issue by separating them with asterisks. The following command must be issued separately while in graphics mode:

"Xa,d,n" Print X (a=1) or Y (a=0) axis
The d and n parameters determine the distance between scale marks and the number of scale marks

The following control sequences are interpreted in text mode:

CHR$(27);CHR$(16) 20 characters per line
CHR$(27);CHR$(14) 40 characters per line
CHR$(27);CHR$(19) 80 characters per line
CHR$(27);CHR$(23) International characters
CHR$(27);CHR$(24) Return to standard characters

ICX-85 DELUXE KEYPAD

by Jim Johnson

I recently visited the home based firm of Innovative Concepts located in the suburbs of Detroit. I purchased the ICX-85 keypad kit ($24.95) and the Function Key kit ($14.95). Together they convert Atari's CX-85 numeric keypad into the ICX-85 Deluxe Keypad.

Many Atari 8-bit users could benefit from time to time by having a 10 keypad for their machine. Back in the production days of the 400/800 machines, Atari introduced the CX-85; a 10 keypad that attached to one of the joystick ports. Like the 400 and 800, the CX-85 was a very well built and expensive piece of equipment. The keypad's weakness was the special handler it required to get its output into the computer. Since most commercial software was self booting and had no provisions for loading a device handler into memory, the CX-85 had little use and fell into disfavor.

The Innovative Concepts ICX-85 conversion kit eliminates the need for any extra handlers. Once installed, ANY software requiring numeric input can get it from either the keyboard or the keypad. The XL and XE computers send all keyboard output through a ribbon cable to a pair of chips on the motherboard that determine which key is being pressed. By tacking 12 wires onto these two chips and connecting them to the keypad, the computer can't tell whether the key pressed was on the keyboard or the keypad.

The kit contains a DP-15 pin connector with a short attached cable, a DS-15 pin connector with a long attached cable, a replacement circuit board for the keypad, a couple labels, and complete installation instructions. Please note that Atari built two versions of the CX-85. The most common version came from Hong Kong (check the bottom of your keypad). The ICX-85 kit will ONLY work with the Hong Kong version. You will need a low wattage soldering iron, phillips screwdriver, needlenose pliers, wire cutters and stripper, a de-soldering tool, electronics grade solder, and a 1/4" drill.

The hardest part for me was opening up the CX-85. Oh it is simple enough, just four screws on the case bottom; but I had never tackled a "serious" electronics project before. I had visions of all kinds of disasters, due to lack of experience. I pushed on and found the project really wasn't difficult so long as I followed the instructions carefully.

I have one of those cheap bulb type de-soldering tools. There are 34 soldering points where the CX-85 keys attach to the original circuit board. Each of these has to be de-soldered to remove this board. My tool did not work very well and it took me half an hour to get the original board off. Once you are done, throw the original circuit board and the few components that are still attached away. You don't need it anymore. The new circuit board has foil traces, but no components, and slips right on. From there it is "paint-by-number" time. The wires are all color coded and the soldering is simple. The cable for the keypad is about five feet long. I can't imagine using the keypad that far from the main keyboard, so I cut the cable down to a more realistic two feet.

The Function Key kit can be installed either on the computer or in the ICX-85 keypad (recommended, if you have it). You do not have to have the keypad to install the function keys. The 1200XL had four function keys

(F1-F4) in addition to all the other keys on every XL and XE. These keys can be used for one button cursor control, toggling between the graphics and international characters, toggling the screen or the keyboard on and off, and toggling the keyclick on and off. They are also programmable with POKEs from BASIC or other languages. When the 1200XL was discontinued, Atari left the code to read them in the operating system. You can put the 1200XL function keys on any XL or XE computer. If installed on the ICX-85 keypad, 13 instead of 12 wires must be attached inside the computer. If installed without the keypad, four wires must be installed inside the computer. I installed the function keys on the keypad.

Once the keypad is converted, the next step is the installation of the other connector and cable on the computer. While the keypad (not the function keys) can be attached to a 400 or 800, this is a complicated affair and you must request a different set of instructions from Innovative Concepts. It is a simple job on a XL or XE. You must drill a 1/4 inch hole in the case just above the SIO port, and break away the small amount of plastic remaining between the two. The DP-15 connector is about the same size as the SIO connector and can come through the same hole in the case without de-soldering the wires if the mother board must be removed for repairs.

Excellent instructions are given on how to determine where to solder the 12 (13 if functions keys have been installed in the keypad) color coded wires. The easiest way to do this is to melt a little solder on each wire, then hold each wire to the correct pin on the chip and momentarily press the solder iron to the wire. This is known as "tacking", and is simple to do and won't harm the chip. It took me no more than half an hour to solder all 13 wires in place and reassemble the computer case.

You get a couple labels with the ICX-85 and the function keys. Before you throw them away, notice that the logo is different on each label. These logos are your new key labels. The number keys are just as they were, but the Escape, Delete, Yes, No, and - (minus) keys have been changed. The first four are now /, *, -, and + keys; and the original - key is now a ',' (comma). This is ideal for typing in mathematical expressions, and the comma works great for BASIC DATA statements. The function keys have F1-F4 labels and cursor movement directions.

In use, the keypad is everything promised. It will be invaluable when I use my tax spreadsheet next month to give Uncle Sam his dues. The function keys work with most of my software, however if the software re-maps the keyboard (as AtariWriter Plus does), the function keys may more may not work as expected.

I think the ICX-85 keypad conversion kit is a good buy at $24.95. The 15 pin cable and connectors are not readily available at places such as Radio Shack; the custom circuit board, while simple in design, makes the project easier; and the instructions are well written and easy to follow.

I feel the Function Key kit is a little pricey at $14.95. There is about $4.00 worth of components included that are available at any Radio Shack. You are paying about $11.00 for Innovative Concepts installation instructions, and information on the function keys that is also available from books such as COMPUTE!'s "Mapping The Atari". A more fair price would be around $9.95.

I truly believe the future of the Atari 8-bit will be in the hands of small firms such as Innovative Concepts, and ultimately in the users who support these companies. If you feel one of these products would be of value to you, or have an idea for a different product, by all means contact them. The address is Innovative Concepts, 31172 Shawn Drive, Warren, MI 48093 (313)293-0730. There is a $3.00 per order shipping and handling fee.



Build Your Own Hard Drive for Under $200!

by Jim Johnson

Is the title just a come on? With all the mail order companies listing hard drives for the Atari ST (and occasionally the Atari 8-bit) in the $600-$1000 price range, one would think so. However, it IS possible to add a hard drive to either your 800XL, 130XE, or ST for under $200. There is just one catch...

Ah ha! You know I'd get to it didn't you? Here it is. For the 800XL and 130XE you must own either ICD's Multi I/O Box, or happen upon the Supra hard drive interface. (The MIO is much easier to get hold of.) For the ST you must own ICD's ST Host Adapter. These devices make it possible for your computer to communicate with a whole range of different devices including hard drives.

Lets talk about that method of communication. If you own a standard modem, you know that your computer communicates with it using something called a "RS-232 serial" interface. Your printer likely has a "Centronics parallel" interface. Your hard drive will need yet a third interface called "SCSI". It is pronounced 'skuzzy' and stands for "Small Computer Systems Interface". The MIO also supports a second interface called "SASI" (Shugart Associates System Interface). SASI was invented first, and SCSI is simply a newer superset of this protocol.

From here on out, if I say host, I am referring to the SASI/SCSI interface on the MIO, or SCSI interface on the ST Host adapter. I'll only refer to the specific device if there is a difference.

Ok, you have purchased your host adapter and plugged it into your computer. Your first thought is that the host talks directly to the hard drive, right? Wrong. Your hard drive doesn't know a SCSI from a fuzzy and couldn't care less. Your drive expects to talk to an interface invented by Seagate for the IBM-PC called "ST-506/ST-412". You need a printed circuit card known as a hard drive controller. Further more, since there are many controller types, you need one designed to talk SCSI (SCSI or SASI with the MIO) to the host and ST-506/ST-412 with the drive. This isn't quite as bizarre as it

seems. Since SCSI supports many device types (tape drives, CD-ROMs, plotters, printers, etc.), each device has its own SCSI controller card. A SCSI hard drive controller is actually a dedicated microcomputer.

From here on out, if I say controller, I am referring to either a SCSI or SASI ST-506/ST-412 hard drive controller. Also, if I say drive, I mean a ST-506/ ST-412 interface type drive commonly used in a MS-DOS machine.

So far here is the communications path to and from your computer and the drive: (computer)<—>(host)<—>(controller)<—>(drive). If you have read this far life will get simpler.

In the case of the 8-bit machines, the host is connected to the computer, and the controller is mounted with the drive in a separate box. For the ST machines, the host and controller are mounted in a separate box with the drive. You will need to purchase the following to build the hard drive: an enclosure suitable for housing everything, a power supply, a cooling fan, the controller, the drive, and several data and power cables with connectors.

You can certainly spend all your money on a hard drive enclosure. The ready made ones come with a power supply and cooling fan. They will set you back anywhere from $90 up to $250. However here is a way to cut that bill down to $40 or less. Shop around for an oversized external floppy drive case or an abandoned PC style case. I have even heard of home-built wood cases. An excellent choice is a case designed for Burrough's computers. It holds two full height 5 1/4 inch floppy drives (usually the drives have been stripped out), has a 60 watt power supply which is more than ample, and a cooling fan and air filter. If you are extremely hard up for cash, you could skip the case and cooling fan. I don't recommend it as sooner or later someone will let something fall, or stick fingers, into your uncontained unit and fry it, him/herself, or both.

You could spend all your money on a controller too. New ones can list up to a couple hundred dollars. However, surplus controllers can be readily obtained in the $30-$90 range.

If you really want to spend all you money in one place, at least do it on the drive. Depending on what size you want, new drives typically run from $225 and up. It is hard to find a new drive that is smaller than 20 megabytes. If you are planning to hook your drive to a ST or other 16-bit machine, you probably want at least a 20 meg drive, but most 8-bit owners would be very well served with a 10 meg unit. You don't have to buy a new drive. In fact, it will be difficult to stay within the $200 budget if you buy either a new drive or any drive larger than 10 megabytes.

There are numerous used drives available locally. What you pay depends greatly on the warranty that comes with the drive. For $100 you can get a 10 meg drive with a 30 warranty. For $50 to $90 you can get a 10 meg drive that has been tested and guaranteed to work when you install it, but no further warranty. For the lowest initial cost, you can buy drives that were working when they were removed from the equipment, no guarantees that they will work when you install them, and all sales final. Everyone has to determine what level of risk they are willing to take. I tend to take the middle road when buying surplus parts.

The cables and power cords could cost as much as $50 new, if you paid full list for all the stuff. From the surplus shops your bill should be under $25.

If you didn't buy a case with a power supply and fan installed (I sure hope it was REALLY cheap). A surplus power supply will be $15-$50, and the fan $5-$12. The higher priced power supplies often have a built-in fan, their own case, and/or provide enough power to run your entire computer system, let alone a hard drive. Don't waste your money on something bigger than 45 to 60 watts.

So far we have a low price of around $145. Use the other $55 to improve quality where you can. In the next installment, I will tell you how to select a controller and drive that work well with your host, explain the difference between MFM and RLL drive encoding, list some local and mail order suppliers, and we'll start assembling your drive.

ST News

Compiled by Jim Schulz

Here are this month's latest news with an offer as well....

• ANTIC has announced their upgrade policy for GFA BASIC. The current version of GFA BASIC is V3.05. The SETTIME and GET/PUT bugs have been fixed in this version. Speed has also been increased from 3.5% to 7.5%. Current GFA V3.XX owners can upgrade to V3.05 for $10.00 and your original disk. GFA owners who received copies from START can upgrade to V3.05 for $69.95 plus $3.50 for shipping. Please include your START disk. The new version will include the V3.05 manual and V3.05 disk. There is still no word on the GFA V3.0 compiler. Antic's official response is "Antic has not set any release dates for the GFA compiler and is not responsible for any former claims." Rumor has it that the compiler might be available in Germany at the end of April and shown at this month's Hannover show.

• Infocom is looking for a distributor for its ST versions of software. An Infocom representative on GENIE stated that if they could find a distributor willing to buy 1000 copies of their next three games, they would release them for the ST. Infocom has always had a good reputation for good software. The next three games are all graphics adventures in mode of the Ultima series. I would expect that they should be able to sell 1000 copies in the US, Canada, and Europe. Any takers????

• Double Click Software has announced the release of DC PORT, an ST serial port expansion cartridge. DC Port expands the ST's serial port to three independent serial ports that are all interrupt driven. A future version will allow five ports total. Current price is around $200.

• ST World magazine is sponsoring its first World of Atari show. A number of new products will debut at the first

show on April 22nd and 23rd. Here are some of the highlights. Avante-Garde will be releasing their PC-DITTO II 4.77Mhz IBM Emulator cartridge. Atari will be showing their new Atari Ultrascript/Postscript Laser Printer, new MIDI synthesizer, and Genlock. Interlink software will be debuting the Masterlink communications program. Gadgets By Small will introduce the Spectre GCR for reading MAC disks from your standard ST drives as well as getting MAC emulation. Wastech will demo their new ST monitor which will allow all three resolutions on a single monitor. All sorts of new stuff coming in the next month. Now for an offer. ST World magazine is available to current and new subscribers at 12 issues for $12.00. This is 1/3 off the normal subscription rate of $18.00. This offer is good until April 3, 1989. All you need to do to get this price is send $12.00 and a note saying ZMAG to ST World/1385 Cleveland Loop Drive/ Roseburg, OR 97470-9622. If you would like to see a sample issue, come to the next MAST meeting. This is a super price for a monthly newspaper of ST news and reviews.

• Atari has just released a press release of their latest news.

The Atari Announces PostScript-Compatible DTP System!

Atari is offering a complete PostScript-compatible DTP system for only $3995 suggested retail. Based on the Mega 4, SLM804 laser printer with UltraScript, Megafile 30 hard drive, and Timework's Desktop Publisher ST. A special printer driver for Timeworks allows it to write PostScript files. Color or monochrome monitor purchased separately.

Not all dealers may offer the same system at the same price.

First Quarter Promotions!

1040ST at lowest prices ever! Monochrome system only $799, color system only $999. Laser printers now available separately! Atari is now selling the SLM804 and PostScript-compatible SLM804 individually, for $1295 and $1495 (respectively) suggested retail. Free modem with 520STFMs! Atari is throwing in a free SX212 modem with every 520STFM sold. Only $599.95 suggested retail. Does not include a monitor.

Not all dealers may participate. Contact your local Atari dealer for more information.

Atari has prepared print ads for dealers to use in local markets, and is preparing television spots for use in regional markets with dealer participation. Plans are underway for exhibits in a series of national industry trade shows. And Atari is going on the road, as a co-sponsor of Mitsubishi's Eclipse national mall tour. Starting this week, Atari will be exhibiting its computers systems along side the new Eclipse automobile at 125 (or so) malls across the country. Contact your local dealer for more information.

So that's the news for this month. For more news, rumors, and offers check out this month's MAST meeting.



8 Bit Xtra

Comments by Jim Schulz

So you want some more 8 bit news and here it comes..... This month, we have three selections for your review. First up, a little info about DOS XE, then a rumor, I repeat rumor, about a new offer for 8 bit owners *[ed. I have removed the rumor, since it has yet to be verified by anyone connected with Atari (and space is getting tight this issue). Feel free to read about it in one of the ZMAG issues, or ask your fellow SPACE members for info on the rumor]*, and finally courtesy of ANTIC Online and Compuserve, some reviews of the latest 8 bit cartridges as well. So let's get started.

First, the new Atari DOS XE diskette and manual are now available from Atari Customer Relations Department for $10.00 plus $3.50 shipping. DOS XE will only work on the XL and XE series of Atari 8 bit computers and not the 400s and 800s. To order, send $13.50 to Atari Customer Relations/ 1196 Borregas Avenue/Sunnyvale, CA 94089. Or you just might wait to see a demonstration copy which is being sent to all user groups as well. I talked with Greg last night and he hadn't received a copy yet so expect a demo any month now....

Finally, since there are a number of 8 bit cartridges coming out these days, here is a review from Compuserve and ANTIC Online from Matthew Ratcliff. I have seen all of these cartridges at Wizard's Work except for Dark Chamber and Choplifter. I have since read some very good reviews of Dark Chamber so it might be something to look for.

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Hot News for 8-bits:
By Matt Ratcliff

I was just sorting through my cartridge collection yesterday. Atari has released 15 or MORE new cartridges (though not necessarily new PROGRAMS) in the past year. That's a whole LOT MORE than anyone else. We have complained long and loud about Atari's lack of support for the 8-bit Ataris, but it seems that times are changing.

Cartridges which stand out from the crowd are:

"Into The Eagle's Nest" - This is an ORIGINAL game from Atari and PANDORA software. It is similar to Gauntlet. The scenario places you in a Nazi fortress where you must blast your way past the enemy soldiers, activate 4 detonators (one at each level of the castle), rescue three of your captured allies, and escape with your skin. It's VERY difficult to win, but the playability is superb. Graphics and sound effects are the best I've seen in years. This baby gets a four-star rating from Mat*Rat.

"Crystal Castles" - Has Pac-Man gone 3-D? Could there be a Bentley Bear cartoon show in your future? It's hard to say, but this is a very cute game. The mazes are now 3 dimensional, played from a 2/3 overhead

view. You must get Bentley Bear to run up and down stairs, through tunnels, and navigate elevators to collect the jewels and honey pots. There's also a super power magic hat that lets Bentley thwart his foes for awhile. There are "hidden" escape routes from some screens which let you to jump to higher levels in the games, and gain bonus points and lives. This game is great for small children, who seem fascinated by it all. It is easy to master in terms of game play, but difficult to beat -with about 30 different mazes. This is a very cool game and gets a three-star rating from Mat*Rat.

"Mario Brothers" - Yes, finally, after 6 years, Mario Brothers come to the Atari home computer. It is old by today's standards - Nintendo has Super Mario Brothers II out now! However, it's a real GAS to play, especially in the two-player mode. The graphics and sound effects mimic the original coin op very nicely. This running, jumping, varmint zapping game gets a 3 1/2 stars from Mat*Rat.

"Desert Falcon" - You control the mysterious Desert Falcon. Why is he here? What should he do? It seems that he's a "pirate" of sorts, looting the pyramids of Egypt. Pick up hieroglyphics for points and "mysterious powers". Shoot bad guys, avoid the obstacles, and eventually shoot the "howling sphinx" night between the eyes. This is a 2/3 overhead view of a scrolling playfield, similar to Blue Max and Zaxxon. The scenario seems all too much like Zaxxon to me. It does have more "depth" because of the mystical powers some hieroglyphs can provide. Graphics are fair and sound effects good. Playability is above average, but the theme is definitely nothing new. It gets a 2 1/2 stars from Mat*Rat.

*** NEW NEW NEW ***

Finally, coming to my dealer this week, three new cartridges:

"Crime Busters" - Jim Zalewski's second light gun game (his first was "Barnyard Blaster"). The name indicates the theme. I'll give you a mini review in an upcoming HOT NEWS.

"Dark Chamber" - This is a mystery game. It is an ORIGINAL game, supposedly similar to Gauntlet - only BETTER and more sophisticated.

"Choplifter" - This Broderbund game has been repackaged in a cartridge, with ALL NEW GRAPHICS. No word on whether the game play has been changed, however.

I will keep you posted!

Do you have any new ideas which you think the SPACE/MAST Newsletter should consider? Send a letter to:

David Meile
Box 13038
Minneapolis, MN 55414

or talk to me at any of the regular MAST or MAST+ meetings.

Till next month!

ST. PAUL ATARI COMPUTER ENTHUSIASTS & MINNESOTA ATARI ST

SPACE and MAST are independent user groups of owners of ATARI Home Computers. It has been organized by local owners of ATARI computers for the purpose of mutual self assistance and sharing of information. It is open to all interested computer enthusiasts.

Benefits of memberships in the groups include monthly newsletter mailed to your home, BBS access, software demonstrations, group purchases, public domain disk(s) of the month software at low prices, reference book library, educational software library (8-bit only) with over 20 titles, personal contacts/learning, greater information and awareness on the world of ATARI, software at discounted prices from dealers, question and answer session, etc. Come to a meeting to find out more.

SPACE - 8Bit Group The SPACE meetings are devoted primarily to the 8-bit ATARI computers such as the 400, 800, 600XL, 800XL, 65XE and 130XE. There is other ATARI related news and some 16-bit news at the SPACE meetings, as well. The SPACE group meets on the second Friday of each month at the Falcon Heights Community Center, 2077 West Larpenteur Avenue, at 7:30pm. Doors open at about 7:10pm.

MAST - ST Group The MAST meetings are devoted primarily towards the ATARI 520ST, 1040ST & MEGA computers. There will be ATARI related news items covered, but not 8-bit news. The MAST group meets on the third Friday of each month at the Falcon Heights Community Center, 2077 West Larpenteur Avenue, at 7:30pm. Doors open at about 7:10pm.

MAST+ - Programming Language User Sig MAST also has a programmer's group meeting. This group has a more technical discussion regarding programming the ST computers in a variety of languages. The group meets on the Monday following the MAST meeting at the First Minnesota bank on Lexington Avenue near Larpenteur Avenue. Meeting time is 7:30, with doors opening at about 7:20pm. The entrance is in the back of the building and leads to a stairway to the second floor.

For more information, or to confirm a meeting time and location, call Greg Howell (SPACE) 636-0381 or Jim Schulz (MAST) 533-4193

SPACE/MAST Membership Application

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Phone_____ Equipment/System Used_____

Area of Interest

Check one or both: SPACE____ MAST____

Renewal?____ Address Change?____ Membership Card Given?____

Dues: $15.00 per year - Please enclose with Application.
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